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Health professionals' attitudes to MMR vaccine

"Green book" should be updated every six months

EDITOR—Petrovic et al describe some of the uncertainties of health professionals involved in giving vaccinations.¹ A degree of vulnerability is evident in the decreased rates of vaccination against measles, mumps, and rubella (MMR) and the negative publicity in the media. We suggest a way of increasing confidence clinically by improving the supply of information.

We have been concerned for some time about the lack of an up to date version of the Department of Health's "green book," *Immunisation against Infectious Disease*. These concerns are reinforced by the controversy surrounding vaccine programmes such as against measles, mumps, and rubella. The green book is a convenient form of evidence and advice covering the main vaccinations delivered through the NHS and is regarded as the Bible by many health professionals. A wide range of NHS staff is given responsibility for implementing these major public health programmes and other protective immunisations. These staff become accountable for the standard of the service provided but are currently impeded by a lack of updated, timely, and accessible information.

The green book was published in 1990, 1992, and 1996; the 1996 edition states on page 13 that its recommendations "reflect present national immunisation policy," although clearly it is five years out of date.² Updated information either has been sent out in loose-leaf form or is available on the internet, but these sources may not be readily available to community nurses as they carry out their immunisation clinics. Access to a copy of the book is more likely.

If the *British National Formulary* were published only every four years or so and prescribers had to rely on companies sending out individual updates on their products they might feel vulnerable when prescribing. Would it not be possible to publish the green book every six months with the latest advice and evidence then available to all health professionals? A similar initiative has just been funded so that professionals can have access to the BMJ's *Clinical Evidence*, also published every six months.

We suspect that the cost would be offset by the ability of health professionals to provide consistent and current advice. This would increase the public's confidence in the effectiveness of the immunisation pro-

grammes and probably increase compliance to achieve higher rates of vaccination. The least that can be done is to offer an improved supply of the best information available for the sake of health professionals, parents, and patients.

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Format of "green book" should be changed

EDITOR—Petrovic et al report their survey of health professionals' knowledge, attitudes, and practices regarding the measles, mumps, and rubella (MMR) vaccine.¹ This is one of the main factors that influence uptake rates of the vaccine.² As the authors point out, health professionals' knowledge and practice regarding the second dose of the vaccine vary widely; many health professionals are not aware of or do not use the written sources that exist, although local educational initiatives could remedy this.

We conducted a similar questionnaire survey among health professionals in the Halton area (north Cheshire) in 1998.³ The survey was of 62 general practitioners, 29 practice nurses, and 25 health visitors, and response rates were 87% (54/62), 66% (19/29), and 80% (20/25) respectively. With regard to confidence in the safety of MMR vaccine, six of the 116 health professionals stated that their level of confidence was 1 on a five point scale (1 = not confident; 5 = very confident). Worryingly, over half (66) considered severe egg allergy to be an absolute contraindication to MMR vaccination, which it is not.⁴

The survey also found that 65 of the health professionals had not attended any educational session(s) on vaccination or immunisation during the three years prior to 1998. There was no significant difference, however, in professionals' confidence in the safety of the vaccine between those who had and had not attended educational session(s) (20/41 (49%) v 28/52 (54%); $P = 0.75$). Similarly, there was no significant difference

between the two groups in the proportion who considered a serious egg allergy to be an absolute contraindication for the vaccination (25/41 (61%) v 29/52 (56%); $P = 0.59$). Although we do not have information on the quality and appropriateness of the educational sessions, this raises important questions about the effectiveness of local and national educational initiatives in raising health professionals' awareness.

A large proportion of health professionals involved in the vaccination programme (>90% in our survey) consider the "green book"⁵ to be the most important source of information. Local educational initiatives, as suggested by Petrovic et al, might improve health professionals' awareness, but in the light of our findings we believe that success is more likely if the format of the green book is changed to enable it to be updated more frequently.

The green book could be modified into a more practical format whereby new information and supplements (including electronic circulars) could be easily added. This would not only improve professionals' awareness but also boost their confidence and promote consistency in the advice given to parents.

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More interactive training and updates on immunisation should be provided

EDITOR—Petrovic et al surveyed health professionals' knowledge and attitudes about measles, mumps, and rubella (MMR) immunisation.¹ Their results confirm what is already known about one of the most important influences in the uptake of child immunisation—the knowledge of the health professionals.²

In 1998 we surveyed the primary immunisation givers at all the practices in our district. We had a 93% response rate (95/102) and found a considerable contrast in the availability of updating and training about immunisation between areas of high and low immunisation uptake rates.

In the western part of the district, where an enthusiastic paediatrician provided regular training sessions for primary care staff, there was a high uptake of all immunisations, including the second dose of MMR vaccine. In contrast, in the eastern sector, where immunisation training had not been as easily available, there was a consistently lower uptake of immunisations, especially with the MMR vaccine. This was despite the fact that the eastern area was comparatively wealthier than the western area, which included a high proportion of practices in deprived inner city areas.

Petrovic et al say that local education initiatives could remedy the apparent variation in knowledge of practice among health professionals. Rather than yet more written material being added to the information overload in the health service, more interactive training and updates on immunisation should be provided as part of continuous professional development.³ This would not only provide information but also give people an opportunity to discuss with their peers any problems encountered when advising parents about immunisation.

We are starting a rolling educational programme this year, targeting those areas with low coverage, and we will be monitoring the effect on immunisation uptake over the coming years.

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nity when it comes to decisions about their child. Petrovic et al have shown that a sizeable proportion of professionals who do understand the rationale are uncomfortable about the schedule, and explaining it to parents.

Children receive the second dose at a time when parents have less contact with primary care professionals regarding the health of their child than they do during babyhood. Mothers reported obtaining most general information about vaccination from their health visitor. The source that they trusted most was their general practitioner. The actual source of most of their information about the MMR vaccine and side effects, however, was television.

Informal comments from general practitioners when we were setting up the study suggest that some are reluctant to raise the issue of the MMR vaccination with parents; they fear that parents who were previously unaware of the controversy will be alerted to it. In a world where people are inundated with information from the media this seems naive. Petrovic et al's data raise the further problem of the reluctance of health professionals to recommend the second dose because they themselves are not convinced of its safety or efficacy.

Our conclusion was that health education and advice from primary care professionals, and particularly general practitioners, could have a considerable impact on the decision to take up the MMR vaccination. Unfortunately, the data collected by Petrovic et al suggest that we need to go some way to educating and training professionals before we can expect them to give reliable help to parents in this difficult decision.

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presented to doctors that it is impossible for most general practitioners to read and assimilate the mass of literature that pours through their letterbox every day. It is perhaps not surprising that misinformation results in ill informed opinion.

Measles vaccine is roughly 80% efficient in leading to immunity after a single vaccination. Thus if 80% of a population is vaccinated only 64% (80% of 80%) will actually develop effective antibodies and 36% will still be at risk of measles. If a second attempt at raising immunity is made then a further 80% of that 36% will develop immunity. This will result in a total immune population of 92%, which is approaching the level needed to prevent epidemics.

The second dose is not a booster dose. It would not be needed if we could see which child had developed immunity and which hadn't merely by looking at the child; this is not the case, and blood tests are required to ascertain immune response. Routine administration of a second dose at an appropriate time interval is therefore the most sensible way forward.

Failure to understand the importance of a second dose of vaccine means that inaccurate conclusions may be reached by journalists wishing to sensationalise Petrovic et al's survey as a lack of support for MMR vaccine by health professionals. Journals such as the *BMJ* do not abuse their position of power by publishing articles that might mislead selective journalists; sometimes more explanation is required for those working in medicine, nursing, or journalism to interpret the importance of some research.

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Advice in primary care affects parents' decision to take up MMR vaccination

EDITOR—Petrovic et al's paper¹ complements our study of factors affecting maternal intentions to take up the measles, mumps, and rubella (MMR) vaccination.² We found that failure to take up the second dose in particular is not simply a function of fear of the vaccine. The two-dose schedule is problematic for parents, as it is for the health professionals whose views are reported here. The reasons, however, are different.

Parents have not been educated in the rationale behind the schedule; many seem to believe that the second dose is a booster. Therefore, if their child has received the first dose they see the second dose as being less important for the child's health. In addition, comments show that mothers are unconvinced by arguments concerning herd immu-

Doctors must understand reasons behind vaccination

EDITOR—Petrovic et al's paper highlights the misunderstandings that arise through misinformation.¹ The health professionals surveyed had misgivings about the need for a second dose of measles, mumps, and rubella (MMR) vaccine in children of preschool age. The paper highlighted the fact that most practitioners did not refer to the standard guidance on vaccination from either the Department of Health or the Health Education Authority.

Education of doctors about virus based disease is minimal. Medical school curricula rarely give more than a few hours to a subject that occupies about 30% of a general practitioner's working day (research undertaken by Primary Care Virology Group). So much information on every subject is

Guided self management plans for asthma

Advice should be simple and patient focused

EDITOR—The study of Jones et al on the views of health professionals and patients about guided self management plans for asthma may be open to misinterpretation.¹ They conclude from exploratory work with focus groups that attempts to introduce self guided management plans for asthma in primary care are unlikely to be successful—a conclusion unsupported by evidence.

Patients are managing their own care but without help from healthcare professionals, a finding that is supported by recent interviews undertaken by the National Asthma Campaign, which showed significant asthma morbidity and only 6% of patients recalling any kind of written advice on how to take asthma treatment.² An Australian study found greater use of self management plans in primary care.³

What the research of Jones et al tells us is the size of the problem involved in encouraging some asthma nurses and primary care doctors to take on the challenge. But in the light of the evidence, we should not be daunted by that task.¹ We need to empower, rather than simply seek to educate, patients. We need to overcome the belief that self management plans are complex (it is unclear from the paper what complexity of self management was portrayed to the study participants). And additional barriers—that self management is not appropriate for most patients and the belief that education alone is the key to success—are also not supported by evidence.²

The “Be in Control” initiative that was launched by the National Asthma Campaign on 30 January 2001 is designed to make self management easier for busy healthcare professionals. It should meet the plea from doctors and asthma nurses in the study who believe that advice should be simple and patient focused rather than simply generic.

As far as patients are concerned, we see nothing new in this study but note important omissions. Responses about denial and non-compliance are already well known, with some of this knowledge coming from previous work from Jones et al. But we also know from the campaign’s telephone helpline and other surveys that people with asthma dislike the uncertainty associated with the condition. How they are helped to address that provides an important route to gaining acceptance for proactive self management. Each patient requires an approach that recognises his or her own particular circumstance. Not everybody needs a detailed personal asthma action plan, but everybody does need to know what to do in the event of deteriorating control of their asthma.

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Focus groups may not accurately reflect current attitudes

EDITOR—Jones et al concluded that neither health professionals nor patients were enthusiastic about guided self management plans for asthma.¹ We think that aspects of the method adopted by Jones et al may have biased the outcome of their study.

Focus groups may not be the most efficient way of gathering data when the subject area is complex or participants hold many different, opposing, and interrelated attitudes towards the subject.² Thus, participants who may have had positive attitudes towards self management of asthma care may not have voiced these views if most were airing negative attitudes.

Varied locations were used for meetings and responses of participants may well have been influenced by where the interview was held. Oppenheim says that examples of inappropriate places to conduct interviews include a pub.³ Holding group discussions on guided self management plans for asthma with asthma patients, nurses, or doctors in a public house seems dubious.

The vignettes used by Jones et al seem to be based on transcripts collected by the same authors in an earlier paper.⁴ However, all three vignettes seem negatively biased against the patient or at least biased against asthma management. Instead of, “I don’t need an asthma clinic,” a more positive alternative taken from the previous study could have been, “I don’t need the doctor as long as the medication is working. I’d let him know if there was a problem.” The apparent bias may have triggered attitudes in the doctors and nurses towards the typical non-compliant patient rather than self management plans themselves. In turn, the wording of the vignettes may have resulted in putting the patients on the defensive (an “us and them” situation) rather than extracting attitudes towards self management plans. Also, why was there no mention of guided self management plans in the vignettes?

Jones et al reported that participants were given an additional explanation of self management plans consistent with the guidelines from the British Thoracic Society. Feedback from one participating doctor indicates that this was perceived as complex—this could have influenced the attitudes of participants towards their usefulness. These methodological issues suggest that this study may not accurately reflect attitudes towards guided self management plans for asthma.

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Focus on regular follow up and repeated education may be more productive

EDITOR—Jones et al report that general practitioners and asthma nurses are ambivalent about the value of self guided management plans for asthma.¹ It is noteworthy that the nurses stressed the importance of patient education and ongoing monitoring. The doctors also stressed the need for continuing education and dialogue. The doubts expressed by the doctors and nurses appear to relate to the value of self management plans that instruct the patients to adjust to their medication according to peak expiratory flows and symptoms.

This begs the question whether guided self management plans confer any benefit over intensive education and regular review. Gibson et al examined this question in a systematic review.² The combination of education, self management, and regular review was compared with usual care in 22 studies. Self management was associated with a reduction in the number of admissions to hospital, unscheduled visits to the doctor, days off work, and nocturnal asthma. It is not clear, however, from these studies, whether the benefit was due to intensive education and regular follow up as opposed to the self management plans.

This question can be addressed by studies where both groups have regular follow up and ongoing education and where the only difference between the two groups is the use of a guided self management plan. The few studies that have done this did not show any additional benefit from self management plans.³⁻⁵ Ayres et al randomised 120 patients to dose adjustments made by a physician or to a self management plan.³ Both groups were seen at intervals of six weeks. At the end of six months there was no difference between the groups in symptoms or lung function.

The Grampian asthma study of integrated care (GRASSIC) study randomised 569 patients to conventional monitoring or self monitoring with a peak flow meter.⁴ The latter group was given guidelines on adjusting medicines according to their peak flow. All patients were reviewed at intervals of three months. At one year there was no difference between the groups in lung function, use of medication, or admissions to hospital. The views reported by Jones et al are supported by the published evidence. Selected patients may benefit from guided self management plans, but for the most part it may be more productive to focus on regular follow up and repeated education.

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Partnership approach leads to effective self management

EDITOR—The emerging challenge for health policymakers is to maintain the quality of life and functional capacity of those with a chronic illness, within economic constraints and despite system barriers. The organisation and principles of primary care seem ideally suited to adopting self management approaches in the care of people with chronic diseases. The study by Jones et al is important in raising several issues in relation to self management in primary care.¹ Their conclusions, however, must be viewed in the context of the chosen intervention and limitations of study design.

Jones et al point out that an ongoing partnership needs to be formed with patients, but they then trial a guided self management approach that is developed by clinicians and has little ownership by either the practitioners implementing the programme or the recipients of the programme.

Similarly, concepts such as compliance do not reflect patient centred medicine or a partnership approach, but rather a directed, traditional medical model approach. Compliance implies the extent to which a patient follows medications and recommendations.² Non-adherence should not be regarded as a defiant behaviour but as a person's conscious and often reasoned decision not to follow a prescriptive regimen or change a behaviour. In addition to the limitations inherent with this particular self management plan, the selected study design restricts the generalisability of the findings. In particular the finding that guided self management plans for adults with mild to moderate asthma are unlikely to be accepted or sustained in primary care needs to be interpreted cautiously.

Thoonen and van Weel in their editorial report that ownership of guidelines is essential to guaranteeing implementation.³ This is true not only for general practitioners and nurses, but also for patients. Criticism should be perhaps aimed at the fact that the self management intervention was a written guide that was not owned by any of those working together. Some patients do not want to self manage, but everyone should be given the opportunity if that is what they wish. The belief that healthcare providers can choose who will benefit is not substantiated by the literature. Approaches such as the transtheoretical model could benefit general practitioners and other healthcare professionals as it underscores the necessity to tailor programmes to the actual needs of

patients through discussion with them to achieve the best outcome possible.⁴

What is ultimately necessary is not for the imposition of well intentioned externally designed plans, but rather the acquisition of skills and knowledge by providers and consumers that is supported by a self management culture that integrates with existing practice.

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Authors' reply

EDITOR—In our paper we set out to seek the views of health professionals and patients on guided self management plans for asthma. We do not think that methodological flaws were incurred because of our use of focus groups. These have been widely used and developed in health services research,¹ and the National Asthma Campaign has released a video on focus group methods. The interaction between participants makes them especially appropriate for the study of attitudes and experiences around specific topics.

Successful focus groups are facilitated by skilful moderation in congenial settings.² For some patients this was a quiet back room in a public house. The vignettes used the actual words employed by the respondents in our earlier work where there was no mention of guided self management plans. In all cases, the topic had to be directly raised by the moderator, which reflects both limited experience of guided self management plans and the perception that they were essentially phenomenon encountered in secondary care.

What we found was a fundamental mismatch between the views of the health professionals and patients. The key issue now is how to address this, and most of the correspondence seems to allude to this. The recently launched initiative by the National Asthma Campaign, "Be in Control," will help to simplify the task, but we need to take this further. We need to pilot and develop a guided self management plan that is developed in a patient centred model, rather than one designed in a medical model (the only ones currently available). The information balance between patients and health professionals is recognised in this study; technical knowledge resides in one party (a doctor or nurse) and preference resides in the other (the patient). Sharing information alone is, however, not sufficient, and this is

not synonymous with sharing decisions. They are separate goals within the consultation and require different skills.²

Risk communication is vital in asthma care, and this requires an open two way exchange of information and opinion about risk, so that management decisions can be based on better understanding of the options and outcomes.³ This process is unlikely to occur within the predominantly doctor centred model of asthma care, and the process of shared decision making is integral to the wider concept of a patient centred approach within the consultation.⁴ We need to work together in developing and testing ongoing programmes of research using a patient centred approach to guided self management in asthma. This has already worked successfully in diabetes care, and recent evidence suggests that patients want a patient centred approach.^{5,6} Now is the time to use existing knowledge and skills to empower patients as well as arming the all important asthma nurses with the tools for the job.

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Changes in policy of refusal of blood by Jehovah's Witnesses

Refuse and decline have distinct meanings

EDITOR—Muramoto discussed the bioethical aspects of the recent changes in the policy of refusal of blood by Jehovah's Witnesses.¹ Informed consent has now become ethically and legally enshrined as a patient's right. During the process of informed consent information is divulged to a patient, and this is often followed by a recommendation. The patient is then given the opportunity to accept or reject the recommendation in part or in its entirety. If the patient decides against the treatment, authorisation and, hence consent, is withheld. There is a tendency in the medical literature to refer to this rejection as refusal.

Although the two words are used as synonyms, their meanings are distinct. Refuse is the stronger of the two and often emphasises firmness, at times rudeness—to refuse to obey an order, to refuse to lend somebody money. Decline means to reject politely or courteously and is applicable to social events or an offer to help—to decline a dinner invitation.

The doctor-patient relationship is usually propitious and courteous. If this and the distinction between refuse and decline are acknowledged, patients seldom refuse treatment. If indeed on occasions patients do refuse in the sense that they have to be rude to express themselves as unwilling to accept something, then have we as doctors not erred in our consent taking process? Our tendency to use the term refusal when a patient politely and courteously rejects our offer of treatment may be more an indication of our feelings than a reflection of the patient's sentiment.

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Bible undergoes continual reinterpretation

EDITOR—Before 1 July 1945 Jehovah's Witnesses had no restriction on the acceptance of blood, the subject of Muramoto's article.¹ After that, the biblical phrases "no soul of you shall eat blood" and "abstain from meats offered to idols, and from blood, and from things strangled, and from fornication" were interpreted to mean that blood transfusion was sinful.

The Watchtower Society has had a difficult time reinterpreting the word of God ever since. For example, in the not too distant past, the society campaigned against vaccinations and aluminium as sinful, but they are now fully accepted. It seems that not all components of blood are sinful now, although who has made that decision seems uncertain. In another decade the Watchtower Society may well have abandoned its untenable and intellectually dubious position on blood transfusions, and this will be an issue of historical interest only.

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Jehovah's Witnesses respect patients' autonomy

EDITOR—Jehovah's Witnesses are usually well informed both doctrinally and regarding their right to determine their own treatment. It is not a doctor's job to question these principles, but the doctor should discuss with patients who are Jehovah's

Witnesses the medical consequences of not having a transfusion in the management of their specific condition. It is essential to establish the views held by each patient.¹ In line with these recent directives from the Royal College of Surgeons, I wish to clarify points raised by Muramoto in his article.²

The position of Jehovah's Witnesses with respect to refusal of donor blood transfusion, based on their personal, deeply held religious beliefs, is well known among members of the medical community. The understanding that Jehovah's Witnesses have of the biblical command to abstain from blood³ precludes their use of whole donor blood and its four primary components (red blood cells, white blood cells, platelets, and plasma). Acceptance of derivatives of any of these major blood components, including albumin, clotting factors, immunoglobulins, and haemoglobin based oxygen carriers, is a matter for each Witness patient to decide.

Thousands of specialist clinicians worldwide are skilled and experienced in the safe and effective use of medical alternatives to donor blood. An extensive body of medical literature has amassed over the past 40 years documenting the successful medical and surgical treatment of patients without recourse to donor blood. Many investigators now accept that allogeneic blood impairs the defences of the immune system and leads to higher rates of cancer recurrence and postoperative infection. Thus, the new paradigm in transfusion medicine considers allogeneic transfusion as an outcome to be avoided.

For their medical care, Jehovah's Witnesses seek out clinicians who are well informed about alternatives to donor blood and have experience in their use. Like most patients, they desire to be fully informed about the risks and benefits of and alternatives to any recommended medical treatment. However, as the Royal College of Surgeons and others point out, this process should occur without the consultant or medical team paternalistically imposing their value system(s) on the patient through coercive questioning or other means.^{1,4} Respect for the patient's unique belief system and patient autonomy are the hallmark of the doctor-patient relationship.⁵ Witness patients will gladly outline their management preferences in an atmosphere of understanding and mutual respect.

Our experience is that surgeons, anaesthetists, nurses, and support staff offer a professional service to each individual who happens to be one of Jehovah's Witnesses. These are most grateful for such personal care.

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Surveillance for Barrett's oesophagus

The conundrum of Barrett's oesophagus is changing

EDITOR—Macdonald et al in their paper and McGarrity in his accompanying editorial reviewed the value of endoscopic surveillance of Barrett's oesophagus.^{1,2} Both articles highlighted the major problems with detection of oesophageal adenocarcinoma in an unselected group of individuals with Barrett's oesophagus.

Much attention has been devoted to risk stratification of individuals who are at high risk of malignant change in Barrett's oesophagus. Men over 45 years, those with at least 3 cm of Barrett's metaplasia, those with severe and frequent reflux symptoms (>3 times week), those with chronic heartburn for 10 years or more, obese patients, those taking drugs which relax the lower oesophageal sphincter (such as nitrates), and perhaps those with eradicated *Helicobacter pylori* infection are most at risk of Barrett's associated adenocarcinoma.³

Pathology has also made a major contribution to understanding the pathogenesis as intestinal type metaplasia gives rise to dysplastic clones from which the adenocarcinoma arises.³ Molecular genetics has been rigorously applied to samples along the sequence encompassing Barrett's metaplasia, dysplasia, and adenocarcinoma, and it has yielded important information about key genetic alterations.⁴ Furthermore, information of those with a family history of gastro-oesophageal cancer has also yielded rare, but none the less important, genetic defects, which can and should be considered for application to familial clusters of disease including germ line mutations of the cell-cell adhesion molecule E-cadherin.⁵

We believe therefore that even in those patients with Barrett's oesophagus who are fit for surgery further selection for repeated endoscopic surveillance should be undertaken. In particular, a combination of clinical criteria, and, perhaps in the near future, genetics, can be used to stratify for surveillance those at high risk of Barrett's adenocarcinoma.

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It is too early to dismiss surveillance programmes

EDITOR—Macdonald et al conclude that current surveillance strategies for patients with Barrett's oesophagus provide no benefit in terms of reduced risk of mortality from oesophageal adenocarcinoma.¹ In their annual surveillance programme of 143 patients with an average follow up period of 4.4 years, cancer was diagnosed in only one patient, as a result of a biopsy taken within the programme. Although Barrett's oesophagus confers a 30-fold to 125-fold increased risk of oesophageal adenocarcinoma compared with people without Barrett's oesophagus, the comparatively low absolute incidence of cancer (around 1 per 100 patient years) results in few cancers being detected by routine surveillance.²

Macdonald et al also say that molecular markers may identify patients at greatest risk of developing cancer. This view is supported by our data from a similar surveillance cohort in Leeds, United Kingdom, in which we used cyclin D1 overexpression as a marker of risk.³ In this prospective surveillance cohort, 307 patients with specialised columnar (intestinal) epithelium were included and had an endoscopic examination annually. A total of 12 incident cases of oesophageal adenocarcinoma were detected between 1984 and 1995 with a mean follow up of 4.3 years. These patients with cancer were matched by age, sex, length of columnar epithelium, and length of follow up with up to six patients from the cohort who did not develop adenocarcinoma. The biopsies obtained at recruitment were stained for cyclin D1 overexpression, and cases were found to be approximately seven times more likely to be positive for the marker than controls (odds ratio 6.85, 95% confidence interval 1.57 to 29.91; $P=0.0106$).

These results are promising, but there was a significant prevalence of positive cyclin D1 staining in biopsies from patients with Barrett's disease who had not yet developed cancer, 14 of 49 (29%), and biopsies from four of eight of those who did develop adenocarcinoma did not stain positive at recruitment. Therefore the sensitivity and specificity of the cyclin D1 marker were 67% and 71%, respectively. Nevertheless, if this prevalence of cyclin D1 positive staining applied to the whole cohort and had been used as a criterion for entry into the surveillance programme then about 90 people would have been subject to follow up with the detection of eight cancers.

Given that multiple genetic alterations are implicated in the natural history of Barrett's oesophagus and adenocarcinoma,⁴ a combination of carefully validated biomarkers might improve still further the predictive value of the molecular approach. The rising incidence of the disease and the advances in

the understanding of its molecular pathology suggest that it is premature to dismiss refined surveillance programmes for early detection and more effective treatment of this cancer.

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Patients need to be appropriately selected for follow up

EDITOR—Macdonald et al present results of a 10 year cohort of patients diagnosed with Barrett's oesophagus.¹ Seven (5.2%) of 134 deaths were related to carcinomas of stomach or oesophagus in a median follow up period less than 10 years, and only five of 409 patients had evidence of mild dysplasia. Macdonald et al concluded that annual surveillance (143 patients for an average of 4.4 years) was not of direct benefit to any individual patient.¹

The 5.2% death rate from oesophageal or stomach carcinoma in less than 10 years of follow up is fairly high, and risk factors may have been modified by treatment. The time interval between development of Barrett's metaplasia and carcinoma may be far in excess of the 10 year follow up in their series. Barrett's oesophagus is only one of many predisposing factors in the development of malignancy, and the natural history of the condition is poorly understood.

Centres that have recruited large numbers of patients into surveillance programmes should audit the value of their programmes and publish the results so that meta-analyses can be performed. But it would require a huge number of deaths and analyses of subgroups—for example, young patients with Barrett's oesophagus and those with dysplasia—before results could be used to advise individual patients regarding the benefit of surveillance. Although there are many consistent variables in the pathways to developing malignancy, there are also many individual factors—both genetic and environmental—that suggest that follow up should be tailored to individual patients' circumstances.

If I were 34 and had Barrett's oesophagus would I want regular surveillance? Maybe not on the basis of current evidence, but if I had some adverse genetic, environmental, or pathological features I might think differently. The knowledge might also encourage modifications in lifestyle or treatment of the risk factors and early presenta-

tion if I developed symptoms. The ratio of cost to benefit for routine surveillance of uncomplicated Barrett's metaplasia in medically fit, symptom-free patients may not be good for the NHS (underresourced in terms of cash and staff) when a second class service prevails. In a well resourced service the conclusion might be different particularly for appropriately selected patients.

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Appropriate practice must be studied

EDITOR—The paper by Macdonald et al will be quoted by those who believe that screening for oesophageal adenocarcinoma in columnar-lined oesophagus is a waste of effort and resources.¹ The data presented do not add anything useful to the debate on the effectiveness of screening if modern surveillance programmes are being discussed.

The protocol used by Macdonald et al is inappropriate given current understanding of columnar-lined oesophagus and does not match modern recommendations. During the course of their study it was reported elsewhere that it was the presence of specialised intestinal metaplasia in the oesophagus which was the risk factor for malignant transformation.² By performing surveillance on all patients with an endoscopically visible glandular oesophageal lining (both with and without intestinal metaplasia) Macdonald et al enrolled patients not at risk of malignant transformation. Thus it is not surprising that the intensive annual endoscopy protocol had such a low yield overall. Streitz et al reported that screening endoscopies in patients with columnar-lined oesophagus, at a mean interval of 17 months, detected one cancer per 73 patient years of follow up and overall was more cost effective than mammographic screening for breast cancer.³ The current recommendations of the American College of Gastroenterology for screening suggest endoscopy at intervals of two to three years in those with intestinal metaplasia.⁴ The findings of Macdonald et al, although of historical interest, do therefore not provide useful data on which to discuss current practice.

An additional point that deserves comment is the prominent and incorrect use of the term Barrett's oesophagus. By placing this in the title, Macdonald et al have helped perpetuate the confusion surrounding the diagnosis. Their use of the historical definition is at odds with the modern definition (a change in the appearance of the oesophageal mucosa recognisable at endoscopy with intestinal metaplasia on histology).⁵ Many of the patients in the study did therefore not really ever have Barrett's oesophagus. The term is so well established that it may be impossible to remove it from the lexicon, but it would be preferable if the more precise descriptive terms—columnar-

lined oesophagus with or without specialised intestinal metaplasia and specialised intestinal metaplasia at the gastro-oesophageal junction—were used in future.⁵

Although I agree with Macdonald et al that screening policies for oesophageal adenocarcinoma require careful scrutiny for their effectiveness, appropriate practice must be studied.

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Authors' response

EDITOR—We agree about the potential usefulness of molecular markers, but which markers will prove to be of clinical value is debatable. Further research may provide a way to target patients at the highest risk of malignant transformation, who might gain from some form of surveillance programme.

Carr makes some interesting points about selecting suitable patients for surveillance. In our cohort, however, future analyses will provide information only about cause of death and will not influence the ratio of cost to benefit of our programme because nearly all the patients have left for the reasons specified.

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Screening and surveillance are different. We examined the benefit of surveillance of a population at known increased risk as opposed to screening a general population to detect an unidentified problem.

The original case reports described by Barrett did not mention intestinal metaplasia. Its presence may be an absolute requirement for subsequent development of adenocarcinoma and its detection is therefore considered by some to be essential in diagnosing Barrett's oesophagus. However, nearly all cases of oesophageal mucosal metaplasia containing columnar epithelium will also have intestinal metaplasia if enough samples are taken (N Shepherd, eighth united European gastroenterology week, Brussels, November 2000). Beales's argument is therefore circular as nearly all of our patients will have had intestinal metaplasia even if it was not visible at biopsy.

We consider that the guidelines issued by the American Association of Gastroenterology¹ are not sufficiently evidence based to prove their value. Blindly to follow them without auditing the ratio of cost to benefit is unwise in the current evidence based culture. The guidelines are similar to those of the World Congress, and following them would have been unlikely to have influenced patient outcome in our cohort for the reasons we gave. The survey we quoted showed that few centres in the United Kingdom follow either of the guidelines. Practice is also far from perfect (defined as following the American guidelines¹)—for example, an important factor determining how often an endoscopy was performed and how many biopsy specimens were taken was whether the doctor was being paid as a "fee for service."²

Our protocol (annual surveillance with four-quadrant biopsies at midpoint plus additional biopsy at strictures or ulcers) did not seem to be beneficial. Many centres in the United Kingdom currently use similar approaches, so Beales's suggestion that our work has only historical interest is therefore erroneous. Other centres have recently come to a similar, disappointing, conclusion about the value of their programmes.³

The British Society of Gastroenterology is currently developing guidelines on surveillance of Barrett's oesophagus and has found little strong evidence to support recommendations (personal communication). Guidelines may reduce litigation, but they do not necessarily help patients. Large formal trials, with differences in survival as the end point, are needed to collect evidence.

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Integrated medicine in the East may differ from that in the West

EDITOR—Bodeker writes of the lessons on integration that can be gained from the developing world's experience.¹ He has ignored the difference in countries' socio-political backgrounds and oversimplified the analysis of integration of traditional medicine into modern medical health systems, and his resulting categories are therefore misleading. He needs to take account of sociopolitical differences between communist and capitalist countries and aspects of integration in other areas such as education.

Even though Bodeker calls the Chinese system integrated, in fact many different training systems and qualifications exist. Each healthcare professional in China is highly specialised with specific boundaries. For example, acupuncturists cannot prescribe Chinese medicine, and medical middle school graduates cannot practise in higher clinics. The system in communist countries appears integrated, but actually it is the opposite; it is fragmented, because of the degree of control over every aspect of the medical system.

On the other hand, in South Korea (in what Bodeker calls a "parallel operation") traditional Korean medicine and Western medicine adhere to the same educational and licensing system. Korean students of traditional medicine are taught courses such as biology, anatomy, physiology, and pathology by the same faculty as the students of Western medicine. Students take the same classes and are examined together.

China, Vietnam, Korea, and India have all suffered from colonisation or its equivalent, during which most of their traditional systems including medicine were taken over by Western versions. The revival of traditional medicine in these countries is recent and represents not just a process of integration but one of restoration. This approach is radically different from that of integrated medicine advocated by some in Western developed countries. It is only with understanding of the complex and diverse history of these developing countries that the real lessons on integration will be learnt.

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Rapid responses

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